THE AMERICAN BEHAVIORAL SCIENTIST

[formerly P.R.O.D.]

BUREAU OF GOVERNMENT

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IN THE NEWS

PROGRAMS AND STUDIES • *SSRC* has added a new African Studies research grants program to 5 present area studies programs (Asia, Contemporary China, Latin Amer., Near and Middle East, East Eur.). Deadlines for '61 applications for various programs are early Nov. or Dec. • *SSRC* has Intl. Conf. Travel Grants for *Intl. Conf. on Input-Output Techniques* (Geneva, Aug. '61), *Intl. Statistical Inst.* (Paris, Aug.-Sept. '61), World Congress of *Intl. Pol. Sci. Assoc.* (Paris, Sept. '61), and *Inter-Amer. Congress of Psych.* (if held outside North Amer., '61); applications due Dec. 1, '60. • *Amer. Management Assoc.* has formed the *Amer. F. for Management Research*, which seeks grants for research from business, other organizations, individuals. The Kossuth F.'s *Hungarian Research Inst. Library* (207 E. 37th St., N.Y. 16) is accumulating research materials, presently has 2,000 reference books, *c.* 50 series of periodicals, extensive collection of documentary materials for scholarly and general public use, has new publication, *New Acquisitions and News.* • *F. for Research on Human Behavior* (Ann Arbor) now has 30 supporting business concerns, plans new seminars, research projects. • Major study of attitudes toward metropolitan govt. in NE U.S. is planned by A. Hawley, Chmn. of U. of Mich. Dept. of Soc. • Washington U. plans an urban studies inst. for research, training, community service programs on urban explosion problems.

GOVERNMENT AND SCIENCE • The present *NSF* social science programs: research grants in anthro., econ., social psych., soc., and the history and phil. of sci.; fellowships in anthro., demography, econometrics and mathematical econ., experimental and quantitative soc., geography, history and phil. of sci., information and communication theory, and psych. (except clinical). • *NSF* early in Oct. established first U.S. scientific "listening post" in Far East, posting two scientists to the U.S. Embassy in Tokyo to promote "exchange of scientific knowledge between scientists and institutions in Japan and the U.S." • *NSF* granted $50M to *Natl. Merit Scholarship Corp.* to study the encouragement or discouragement students get during undergrad. study to take graduate work. • Federal funds of $250M will support continuing studies at U. of Mich.'s *Inst. for Social Research.* U.S. PHS is supporting a continuing study of community, inter-personal, personality factors in juvenile delinquency ($75M); a study of the introduction and spread of teaching innovations ($33M); and a study of conflict and ambiguity in relation to mental health to discover "how people within large organizations handle conflicting demands from superiors and subordinates" ($57M). U.S. Office of Ed. provided $90M for a test of creative thinking with h.s. students. • The State Dept. has suspended its practice of allowing authors to see still-classified historical papers, thanks to "premature" newspaper appearance of Potsdam materials.

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The Paradox of Party Difference

by DAVID BUTLER

British parties are not so "principled" nor are American parties so "unprincipled" as many experts and laymen maintain. Graphs are a useful device to demonstrate the simultaneous overlaps and contrasts of British, American, and French parties. A simple comparison of their elected representatives is enough to break down certain illusions; the introduction of curves depicting the position of the parties' militants and rank and file reveals more of the total spectrum and explains other apparent contradictions of fact. Professor Butler is of Nuffield College, Oxford.

Most teachers of politics in the United States and in Britain would agree that Lord Bryce's picture of the Republican and Democratic parties as "two bottles, each having a label denoting the kind of liquor it contains, but each of them empty," has been too long with us. A rather smaller majority would agree that the picture offered by Professor Schattschneider and others of the clear contrast between the British parties has been much overstated. I do not wish to add to the controversies on the theme—many and profitable though they have been—but merely to offer a graphic device which has been used with some success before audiences on both sides of the Atlantic to illustrate the nature of the differences within and between the party systems of different countries.

For the purposes of this device, one assumption that admittedly begs the question must be made: that political positions can be explained in terms of a spectrum running from extreme left to extreme right and that everyone can be classified in terms of his particular place on that spectrum. This assumption is grossly arbitrary, of course. A man may be to the left on some issues and to the right on others, while in relation to many issues the terms "left" and "right" are meaningless.

However arbitrary this notion may be, it is not altogether unrealistic. Some such view underlies a large amount of everyday political conversation and reporting. And a host at an academic or political cocktail party will be amazed at how rarely he has to tremble in indecision as he distinguishes between his guests' drinks by taking the glass of his more right-wing guest in his right hand. It is quite possible to make a rough estimate about where a politician or an elector stands along a spectrum from radical red to reactionary violet. Furthermore, with the use of the questionnaire and other techniques, more precise scaling can be achieved, as Angus Campbell, Herbert McClosky, and others have recently shown.

The popular picture of the spread of opinion between right and left in British and American parties is probably much like that shown in Figure I. The overlap between the positions of Conservative and Labour M.P.'s is very slight; the overlap between Republican and Democratic Congressmen is fairly complete. The grounds for believing in the total confusion of the American party system and the relative clarity of that in Britain are made blatantly plain.

But the picture is transformed if averages and not extremes are considered, if attention is focussed upon the way in which opinion is *concentrated* in each party and not upon its potential range. Frequency distributions, showing how people holding right and left opinions are distributed within each party, would probably have the shape of Figure II. In this figure the distance between what may be loosely termed the centers of gravity, the positions of the median supporter of each party, are about the same in Britain and the United States. Indeed, if the right wing of the Democrats, so largely drawn from the South, was eliminated, the American contrast would be appreciably more striking.

Even without this consideration, however, it can be argued that there is in fact a

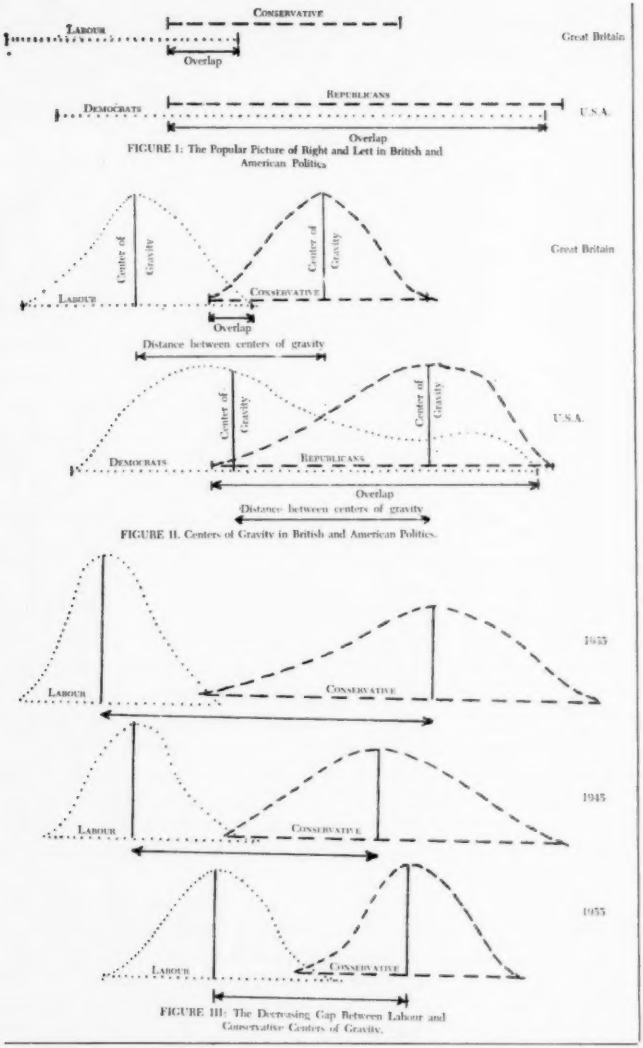

FIGURE I: The Popular Picture of Right and Left in British and American Politics

FIGURE II. Centers of Gravity in British and American Politics.

FIGURE III: The Decreasing Gap Between Labour and Conservative Centers of Gravity.

reality. These curves are not based on precise measurements. Different observers might have very different views on how individuals and issues should be classified. It would be possible to draw and defend curves that would illustrate the substantial identity or the total contrast between the parties in either or both the countries. Each theorist must decide for himself the extent of the paradox which the device is designed to explain—the paradox that parties whose views seem very largely to overlap can be so very different, while parties whose views seem quite distinct can be so close to each other. Moreover, each theorist must decide for himself how much of the political struggle can be explained within the terms "right" and "left," and how much must be regarded as mere feuding between sections or interests of a kind that cannot be fitted into any such ideological classification.

greater difference between the two American parties than between the two British parties. In some recent periods the issues in the area between the party centers of gravity—for example, acceptance of the welfare state or of international involvements—have been bigger and more genuinely controversial on the western side of the Atlantic.

A simplified expository device must not be mistaken for an exactly observed picture of

But if the concepts of "right" and "left" can throw light on any area of party conflict, then this graphic device can be used to clarify other problems. For example, the gap between the parties obviously varies with time. Figure III suggests a possible interpretation of recent British politics: the spread of opinion between the Conservative and Labour parties—and to some extent within the Con-

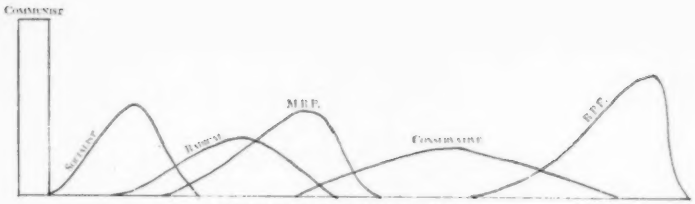

FIGURE IV: The French National Assembly, 1951.

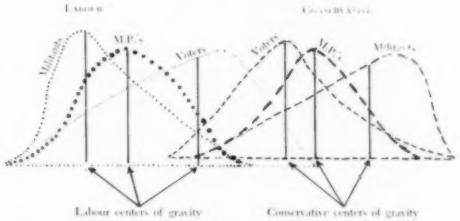

FIGURE V: M.P.'s, Militants, and Voters in British Politics.

servative party—diminished greatly between 1935 and 1955.

Similar diagrams drawn for the United States would show the Republicans and Democrats overlapping greatly in the early 1920's, drawing widely apart with the coming of the New Deal, and overlapping greatly once more in the 1950's.

The complex dilemma of French politics under the Fourth Republic can be illustrated by another graph. Figure IV shows the position of members of the National Assembly after the 1951 election, which returned six roughly equal groups of deputies. It is true that the difficulties of explaining French politics in terms solely of "right" and "left" are particularly great, but a diagram such as this can help students to understand how much wider was the range of opinion in France than in English speaking countries, and how much compromise was necessary to find a majority among the democratic parties of the Fourth Republic.

But perhaps the most valuable application of this sort of diagram is a demonstration of the conflicting elements *within* parties. Thus far we have tacitly assumed that we are illustrating the distribution of views among M.P.'s, Congressmen, and deputies. But the views of elected representatives obviously do not necessarily mirror the views of those who vote or work for them. It is worthwhile to superimpose on the British half of Figure II the possible distribution of opinion among the active members of, and the passive voters for, the Conservative and Labour parties, which is done in Figure V.

This diagram illustrates the essential dilemma of party leaders in Britain, and elsewhere: their most loyal and devoted followers tend to have more extreme views than they have themselves, and to be still farther removed from the mass of those who actually provide the vote. Party leaders have to conciliate those who support them with money or with voluntary work, without alienating that large body of moderate voters whose attitudes make them most likely to swing to the other party and thus to decide the next election.

These various diagrams are no more than pedagogic devices, arbitrarily drawn to illustrate propositions that must occur to any serious observer of party politics. In conjunction with voting records or survey-based indices of "rightness" or "leftness," they do offer a useful technique. They can help separate out, more clearly than has hitherto been practicable, the extent of present and past ideological cleavages within and between democratic parties.

The Tantalizing Concept of Productivity

by HANS B. THORELLI

"Productivity" really means "productivities," according to Professor Thorelli of the University of Chicago Graduate School of Business, for organizations have multiple goals. Studying and adjusting the productivity of subordinate levels of organizations may be dangerous to total productivity. Measuring resource consumption or total input is difficult in dollar terms and more so in labor terms; management input in particular is elusive. "Effectiveness," "efficiency," and "profitability" must be distinguished from productivity. The greater the creative element in work, the more difficult measurement becomes. Yet, despite such grave problems of measurement, the elusive concept of productivity will be given an increasingly important role in research and policy determinations.

Organizations exist to pursue goals. The pursuit of goals involves expenditure of resources. And to minimize this expenditure while minimizing goal achievement is generally held desrable. Productivity is the strategic notion in this context, for productivity expresses the relationship between goal achievement (output) and resources expended (input). And thus productivity must ultimately be the dependent, "payoff," variable in research on problems of organizations, whether economic or social, business or governmental.

Considering the great body of writings on productivity problems and the liberal use of the term in everyday political and economic debate, however, the productivity concept and its implications are far from adequately examined.

THE PLURALISM OF PRODUCTIVITY

The definition of productivity as the relationship between output and input is deceptively simple. An entire family of complications arise from the fact that productivity is not a monistic concept—we have to deal with a hierarchy of *productivities*. For better or worse, most organizations have a variety of goals. The Fire Department is concerned not only with putting out fires but also with fire prevention, ambulance service, repairing toys for poor children, and so on. A business is concerned with profitability, but also with product leadership, market position, pleasant employee relations, and so forth. More and more social scientists and managers have come to agree that real-life business operations cannot be understood—or conducted—simply by assuming that profit maximization is the only business goal that exists *independently*.

Even if we did accept the heroic assumption that profit maximization is the sole goal of the firm, we would still need to know all the firm's self-imposed policy constraints ("We shall be a full-line automotive manufacturer characterized by quality leadership," etc.) for a full examination of its productivity problems. In practice, the situation might resemble fairly closely the case in which a variegated goal structure is explicitly recognized.

To study all the aspects of productivity, *all* the objectives of an organization must be known, as well as the relative weights attached to them. The constitution or written policies of the organization sometimes contain such information, but seldom in adequate amounts. Indeed, management consultants often observe that executives in their client organizations have no clearcut idea of their goals, or that their views on the subject are quite diverse. This is probably one good reason why productivity studies are generally limited to some specific aspect of the operation. Such delimitation may be quite in order, but it should be remembered that superior performance in one area may

be inconsistent with the simultaneous improvement or maintenance of performance in another.

The Productivity of Parts

A related difficulty is that the productivity of the whole usually does not vary identically with the variations of the productivities of its parts. A simple illustration: salesman *A* has been increasing his productivity, in terms of sales per man-year, but only at the expense of his colleague *B*; hence his increase is of little use to the productivity of the sales district in which they both work. Similar reasoning may be applied to efforts to increase productivity at the district level: the overall productivity of a company's sales function will not be raised if an increase in productivity in one sales district is gained at the cost of productivity in another.

The point is also valid with regard to relations among the several functions of an organization. Minimization of inventories may increase the productivity of manufacturing (if that function must bear inventory carrying costs), but decrease the productivity of marketing (which may find it does not have the right product available at the right time to make a sale). Thus, if attention is riveted too closely to improving productivity at subordinate levels one runs the risk of *suboptimization*.

It is, of course, often necessary to study ways of increasing productivity at the more peripheral levels of an organization. In fact, there is an almost infinite range of productivities—and suboptimization possibilities—from the individual employee *via* the firm to the national or international economy. Moreover, the initial direction of progress often could be considered suboptimizing; for example, the early pioneering in the West, or the development of high octane fuel before there were high-compression engines that could make use of it. But any promotion of special productivity should be considered with a view toward its side-effects on the productivities of other parts as well as the whole (or at least the next higher level).

Utilization vs. Allocation of Resources

A related problem is that of resource *utilization* vs. resource *allocation* at different levels of the organization. Productivity at a subordinate level may be increased by greater utilization of existing resources, for example, when a construction firm's crew of masons raises its productivity roughly by 10 per cent (measured in output per man) by working overtime four hours a week. But frequently it may also be raised by a different allocation of resources to the subordinate unit, as when the same crew of masons boosts its productivity by 50 per cent after management provides it with a bricklaying machine.

A redefinition of the task assignments (or "functions") of subordinate units is also likely to change productivity. Thus, if assembly workers are made responsible for the maintenance and repair of the assembly line, their productivity may be a good deal lower than if the maintenance function is given to a special maintenance unit. In other words, the productivity potentialities at any one level will vary with constraints on resource allocation and task assignments. Productivity is a function of the entity under study *and of that entity as part of a broader environment or system*. Before undertaking a study of productivity of a particular organ or level of an organization, the question should be raised whether the existing allocation of resources and functions is to be regarded as given or as subject to change.

The Short-Term and the Long-Term

Another complication in the study of productivity is introduced by *different perspectives of time*. At times, short-term productivity may be directly opposed to long-term. If a salesman devotes all his efforts to getting new orders in an effort to raise his output, he may neglect the missionary and development work necessary for a sustained flow of future orders. The whole issue of conservation in the exploitation of natural resources, for example, is based on the conflict between short-term and long-term productivity.

Resource Consumption

It has been stated that productivity is expressed by the relationship between output and input. On the input side, manage-

ment, labor, capital equipment, and materials are frequently cited as four fundamental factors. A full-fledged inquiry should reasonably comprise all factors. In addition to practical problems, however, such an approach is likely to encounter major conceptual difficulties. There is no self-evident, common standard for measuring the consumption of such diverse resources, although some fairly successful efforts have been made to find a common expresion in terms of dollar values (*e.g.*, in the General Electric Key Result Area Measurements Project). But even then there remain such ticklish questions as adjustment for inflation and what principles of depreciation to apply. Some investigators have advanced the notion that total input can be expressed in terms of labor time "equivalents," including both actual and "embodied" labor, the latter referring to labor represented in the materials, fuel, machines, managerial talent, etc., engaged. In practice, however, this method tends to turn out even less satisfactorily than the transformation into dollar values.

Managerial Productivity

Another principal problem is to isolate the effect of management from that of other factors. There is little reason to believe that we shall ever be able to gauge managerial productivity except as it is reflected in the overall productivity of the enterprise, *i.e.*, as intermeshed with the other factors. A corollary is that each of the other factor productivities, as conventionally conceived, is actually a conglomerate of "innate" productivity for the job of that factor and a productivity contribution of management.

For these reasons, most studies of productivity—in the firm as well as in the national economy—center on one, and only one, of the three input factors of labor, capital equipment, and materials, even though the productivity of a single factor actually may have little independent meaning apart from the productivities of the others. Labor is often the factor seized upon, due both to its relative expensiveness and to the fact that skilled labor at least is often a bottleneck in the supply of resources. Indeed, it is not uncommon to find the term productivity (unduly) restricted to increases in output per unit of labor.

Effectiveness, Efficiency, and Profitability

The terms effectiveness and efficiency are frequently and frivolously used as synonyms of productivity. Yet there is certainly room for independent meanings of both terms, and in the midst of the conceptual confusion of recent years authors are again beginning to turn back to what appear to have been the original notions of these words.

Effectiveness may be usefully thought of as the adequacy of an organization's programs, and thus pertains to the degree of goal attainment. To take a simplified example: a raft provides an escape of sorts from a sinking vessel, but a much more effective solution to the salvation problem is a motor launch which will take the passengers to shore. Efficiency, on the other hand, is the ratio of the results actually obtained with the available resources to the maximum results possible with these same resources. It is often possible to establish the theoretical maximum results of a given resource or combination of resources in the fields of natural science, but to do this in the study of business phenomena is generally impracticable. To quote Herbert A. Simon,

> For the engineer, both output and input are measured in terms of energy. . . . Hence arises a concept of "perfect efficiency"—that is, a situation in which output equals input. In the social sciences, output and input are seldom measured in comparable units; and even when they are, as in a comparison of cost of fire protection with dollar losses from fire [or sales dollars with salesmen compensation dollars], there is no "law of conservation of energy" which prevents the output from exceeding the input.[1]

Therefore, in the study of business phenomena, it is difficult to see the efficiency concept applied with quantitative precision.

[1] *Administrative Behavior* (2nd edition, 1957), p. 181. Material in brackets added.

There is less confusion concerning the relationship between productivity and profitability, although both concepts refer to the ability of a business to utilize its resources. The essential difference between the two is that productivity relates to "physical" changes in output and input, whereas profitability is concerned with changes in prices and costs. Price and cost changes may be the result of physical changes in output and input, but may also result from the distribution of productivity gains or losses, the competitive climate, or general economic conditions. Only on the rather exacting assumption that costs and prices remain constant do profit-earning capacity and total productivity of factors move together. As a rule, it is more reasonable to regard productivity and profitability as separate areas of performance.

The distinction between productivity and profitability is instructive in that it shows that the pursuit of productivity as such cannot be the end of all activity. It is perfectly possible to imagine a firm increasing the overall productivity of its operations, yet still facing bankruptcy. In a competitive environment, active engagement in the struggle for greater productivity is a condition of long-term survival, but not a guarantee thereof.

The Uncertain Relations Between Input and Output

We pointed out initially that we must know *all* the objectives (desired outputs) of an organization, as well as their relative weights, in order to study productivity in all its ramifications. But this is not enough: we must also know what inputs are used. If management is willing to consider a different allocation of resources we should also consider all combinations of inputs that *might* be used. Unfortunately this knowledge does not flow automatically from knowledge of the objectives. Ends-means relationships are not unequivocably deterministic. Frequently a given end may be reached by alternate means: to reach the office I can commute by bus or by car or even walk.

Often the relationship between input and output is much more obscure. While for a machine-paced operation, working time may be a fair measure of the labor input required for a given output, William Gibson's *The Seesaw Log*, an account of the playwright's labors in writing the play "Two for the Seesaw," furnishes eloquent and entertaining testimony to the fact that a time-allocation study of the author would have contributed little to the understanding of his work. Indeed, it is probably a general maxim that the more closely output is related to creativity (art), the less reliance can be placed on time-allocation patterns as indicative of more or less productive effort. The fact that the work of a top executive in this respect is rather closely related to that of the artist is clearly brought out in one of the few time-allocation studies of managers in action: Sune Carlson's *Executive Behavior: A Study of the Work Load and the Working Methods of Managing Directors* (1951).

Furthermore, the longer the time span over which activity has to be exerted before output is obtained, the less relevant is daily time allocation. The output of the school teacher is pupils with at least passing grades. How she spends her time for a week or two is not likely to indicate her excellence as a teacher, or even what the quantity and quality of the output is likely to be. As time-allocation studies are one of the principal means of observing work, the paucity of productivity studies of intellectuals should not be surprising.

Productivity and Measurement

Productivity and measurement are linked inextricably. In a sense, productivity itself may be regarded as a measurement dimension, much like length or temperature. Too, most studies of productivity are undertaken with comparison in mind. In fact, it is difficult to define let alone to measure an absolute level of productivity. In practice the concern is almost always with the measurement of *relative* productivity levels. The comparison may involve different periods of time, different units within an organization, inter-firm comparisons in an industry, confrontation of international data, and so on.

If it is difficult, or even impossible, to

conceive of an absolute measure of productivity, it follows that all productivity concepts in practical use contain a subjective element. The singling out, combining, and weighing together of various factors of input and output depend on what aspects of operations the investigator is particularly interested in or otherwise wants to emphasize. A comparison of physical outputs per capita would certainly be adequate to get an idea of relative real incomes in various nations. On the other hand, if your purpose is to measure the degree to which your firm is satisfying its customers' wants, you can no longer restrict yourself to taking a look at your physical products: you should also consider all the services and intangibles that go with them. A study may be primarily "input-centered," in which case findings are used chiefly "in terms of their bearing upon the level and composition of input requirements."[2] Output then tends to be viewed as an undifferentiated aggregate. If you are running an oil refinery, on the other hand, your productivity studies are likely to be "output-centered," attempting to answer the question: How will changes in the composition of the various derivatives (all obtainable from the same crude oil input) affect operating results?

The problem of almost inescapable subjectivity in selecting and weighing factors (no matter how objective the subsequent calculations) is especially serious in view of what may be called the action implications of productivity measurement. There is considerable danger in taking too narrow a view, which often seems to have been the case in the establishment of conventional productivity yardsticks. An undue emphasis on output per man-hour, for instance, may turn attention away from what may be more than offsetting inputs of capital or materials.

Furthermore, misplaced concepts of productivity may yield dysfunctional rather than functional behavior on the part of employees. An excellent example is furnished by Peter M. Blau's study of a State employment agency, *The Dynamics of Bureaucracy: A Study of Interpersonal Relations in Two Government Agencies* (1955). When official measurements emphasized only the number of clients interviewed per agency employee, officials tended to lose interest in the actual placement of applications. When the emphasis was shifted to the number of clients actually placed, officials tended to use any indiscriminate means to achieve placement. Only when a productivity concept that incorporated both of these and various related criteria was applied did the agency approach more closely the mission for which it had been established. If but one or two of the most tangible or easily measured outputs among a family of them are selected, such as total production or sales (without consideration of their composition, or of possible side-effects on other goals), only organizations with an unusually strong group spirit of loyalty and solidarity are likely to avoid dysfunctional behavior.

Only two of the practical problems of productivity measurement will be mentioned here. In gauging productivity performance, the interest is usually restricted to the factors of production working within the organizational entity being measured. Logically, this calls for a computation of the volume of, or at least the changes in, the "net value added" by this entity. (Typically, sales value minus cost of materials and outside services.) Such calculations are often fraught with considerable practical difficulty or ambiguity. For preliminary purposes therefore, output is typically measured as gross with respect to input, thus reflecting the contribution of all (rather than the last one or few) stages of productive activity. This method may indeed be sufficient, if the purposes and degree of integration of the organizations compared are identical.

A second set of measurement problems stems from a variety of sources which we may lump under the heading "changes in the quality of what is being measured." This refers, of course, to such changes in the quality of output as are revealed in a comparison of a 1930 with a 1960 model of an automobile of a given make. But it also refers to a whole host of more or less uncontrollable environmental changes that affect performance, such as a recession which may have

[2] Bela Gold, *Foundations of Productivity Analysis* (1955), p. 13.

engendered operations far below capacity or upset the pre-existing balance of factor prices.

An Elusive Yet Indispensable Concept

It is a reasonable assumption that as the standards of living keep rising, spiritual as well as material needs will become increasingly diversified, and the goal structure of modern organizations increasingly pluralistic. At the same time the range of alternate inputs available to produce a given output is continuously broadening with progress in the behavioral sciences as well as in technological fields. If this is so, the many conceptual and practical difficulties by which productivity studies are surrounded are apt to grow rather than diminish. What, then, is the future of this tantalizing concept?

We confidently predict a glorious future. Man's need of measurements grows with the complexity of his civilization. The urge to gauge what we conceive as *progress* in particular seems to flow naturally from contemporary culture. And there is no doubt that productivity measurements may serve important practical purposes when used with sophistication. They may be used to highlight and redefine the goals of the organization, as well as to appraise performance. Perhaps their most important everyday function is to indicate areas of activity where improvement is needed. We must remember, however, that no single measurement of productivity is ever likely to meet all our performance measurement needs.

THOUGHTS OF AN EIGHTEENTH CENTURY CHINESE MALTHUS

Population will in 30 years increase five times and 10 times in 60 years. Within a matter of a hundred years it will have increased twenty-fold.

The amount of land and the number of houses will always be deficient compared with the size of population.

Flood and drought, plague and pestilence are what nature offers us as remedies, though the percentage that die in natural calamities rarely exceeds one or two tenths of the populaion.

In a long reign of peace, the emperor and his officials can neither stop human reproduction, nor are the measures they do dispose of adequate to provide the people with sustenance.

Hung Liang-Chi

Translated by L. Silberman in "Hung Liang-Chi: A Chinese Malthus" *Population Studies*, XIII (March, 1960), pp. 257-65

Another Look at Senate Research on Foreign Policy

by JAMES A. ROBINSON

In the September ABS, Morton Halperin gave a generally favorable evaluation of the U.S. Senate's venture into foreign policy researches. James Robinson, of Northwestern University's Department of Political Science, is more critical. Though such studies have much potential, they are marred by inadequate ways of thinking about the future, ambiguous criteria for evaluating policies, and limited use of behavioral science.

The series of studies on U.S. foreign policy commissioned by the Committee on Foreign Relations of the U.S. Senate reached print between August 1959 and February 1960. The appropriation for the twelve volumes of more than a thousand pages was $300,000. All of the studies deal with the future contingencies under which U.S. foreign policy will be made. Most of them concern substantive policy problems, including four geographic areas, although the lengthiest report is devoted exclusively to the "formulation and administration" of foreign policy, and a few others occasionally touch on policy processes and procedures.

So large and so diverse an undertaking might properly be evaluated from any number of perspectives: *e.g.*, the comprehensiveness or originality of the individual analyses; the practicability of the proposed means to the postulated goals; the uses to which the studies have been, are being, or could be put; the decision not to sponsor original, field research in favor of drawing on extant knowledge. All these and other legitimate points for concern have been discussed in Washington and among researchers throughout the country.

THE POTENTIAL

I have four comments on these studies. The first is that they provide a possible means by which Congress can perform a constructive role in making foreign policy. It is widely believed that the Senate and House cannot initiate foreign policies, although there are notable instances in which foreign policy specialists in the Congress have prodded, proposed, intervened, initiated, checked, and otherwise participated in the foreign-policy-making process. Nevertheless, it seems to me that Congress, both by its own choice and that of the Executive, increasingly performs *legitimating* rather than *initiating* functions.

This decline in initiating functions is usually attributed to the increasing importance of technical information in making foreign policy and to the Executive's superior resources for acquiring and using such information. Another factor is the frequent necessity for making foreign policy decisions both quickly and secretly. Studies of the sort recently sponsored and published by the Committee suffer from neither of these disabilities. The technical information on which they rely is widely available in public sources. Furthermore, these studies sought "to avoid transitory issues and to concentrate on the fundamental forces at work within and without the United States. . . ."[1] Political, economic, social, technological trends over the next five years or twenty-five years—these are the substance of many of the reports.

We are often told that the Executive has difficulty finding time for this long-range thinking and projecting. Policy-makers in the Departments of State and Defense recurringly lament that they are so very busy with particular reactions to particular events that they have little opportunity to survey the future. And although there may be ways of

[1] Carl Marcy, "The Research Program of the Senate Committee on Foreign Relations," (*ABS*) *PROD*, II (November, 1958), p. 28.

insulating planning staffs from operating duties, the usual result of such attempts seems to be that planners are eventually drawn into making decisions.

If the Executive is chronically unable to consider the long view, and if the Congress is constitutionally and organizationally unable to participate in current decisions, should not the foreign policy committees devote significant efforts to studying trends and postulating goals which the U.S. might pursue?[2] If the committees had in mind a set of goals—say of ten years in the future—they might expect the Executive to justify its annual and biennial requests in terms of these fundamental goals. And if the Executive felt them to be unreasonable, it would have to justify another explicit set of objectives. Thus, by virtue of the Congress' planning the Executive might be forced into planning.

Whether the Congress should expand its initiating functions involves other questions of means and ends, of course. As a practical matter, however, such studies could readily contribute to that end. If they are to serve such a purpose, they must measure up to some standards of excellence, which leads to my second comment.

A Limited View of the Future

On the whole, I am disappointed in how these various papers think about the future. This is not a judgment of *what* they think the future holds, but of *how* they postulate and predict.

Each of the studies makes predictions about the future—that there will be fundamental changes at an increasingly rapid rate—and base policy proposals on these predictions. Yet none really discusses a terminology, a set of concepts, or a model for talking about the future and how to predict the direction and rate of change, whether social or scientific. Quantitative statements about political as well as technological and economic change abound, yet without explicit methodology for objective measurement of change. This fundamental problem underlies all our talk and planning about the future.

The methodology, to be sure, is more than the collection of data. It includes the identification of the variables which account for change in social systems and in the growth of physical and natural science knowledge, or whatever it is that we try to explain and predict. The Stanford Research Institute's report on "Possible Nonmilitary Scientific Developments and their Potential Impact on Foreign Policy Problems of the United States" briefly mentions the problem.[3] The gist of SRI's discussion, which is confined to predictions about growth in physical and natural sciences, is that predictions concerning the most important thing, discovery of unknown scientific principles, is most difficult; prediction of more trivial things, such as the invention of new techniques growing out of known principles, is relatively easier. The report also says that forecasts of scientific development most often underestimate the rate and scope of discovery and invention. This generalization apparently applies also to predictions about social change, for we consistently seem to underrate the expansion in the use of highways and bridges, of schools and hospitals, and in so many other aspects of social life.

If the government of the United States is to master "the challenges we face" (the title of Mr. Nixon's book) and to explore "the new frontier" (the motif of Mr. Kennedy's campaign), it needs to know how to think about the future. It needs more explicit theory about the future than these volumes contain. One of the most practical things the Senate could do would be to stimulate such work.

[2] (*ABS*) *PROD*, I (May, 1958), pp. 42-43, carried an editorial urging Congress to support the behavioral sciences with an institute of its own rather than through an Executive agency. Although different in certain respects, the two proposals have some of the same implications.

[3] "Possible Nonmilitary Scientific Developments and Their Potential Impact on Foreign Policy Problems of the United States," No. 2 in the *United States Foreign Policy* series, pp. 12-13. A full listing of the studies is given in Morton Halperin, "Is the Senate's Foreign Relations Research Worthwhile?" *American Behavioral Scientist*, IV (September, 1960), p. 22.

A Question of Criteria

My third comment concerns the criteria by which these studies, particularly the Brookings Institution report on foreign policy formation and administration, evaluate policies and policy-making processes. The Brookings study is based largely on some 150 interviews with key Congressional and Executive personnel, and although the data are not reported in full, there is a hard empirical base underlying much of the report. The plans of Dr. H. Field Haviland, Jr., and Dr. Burton M. Sapin to follow this study with a longer and even more thorough one should be welcomed.

However, the question of what are the criteria for evaluating a decision or a decision-making process is prior to data collection and analysis. Without standards, one can hardly criticize or recommend. The Brookings paper, more than the others, is explicit about several standards. For example, it assumes that "The basic test of the effectiveness of an organization is a functional one: how well it helps to marshall the available human and material resources to do the job for which it was created."[4] More specifically, the report would judge administrative arrangements by five guidelines: increased attention to foreign affairs; greater speed and flexibility; long-range thinking; improved integration of related instrumentalities; and strengthening multilateral associations. Although the Brookings report recognizes that these criteria are not hard and fast and that values sometimes conflict (for example, efficiency vs. innovation), nevertheless a reader is still left wondering what would be a "good" decision and a "good" decision process. These questions are also left unanswered by others, including social scientists and decision theorists generally, and even by other Senate committees, currently by the Subcommittee on National Policy Machinery headed by Senator Henry Jackson.

Without detracting from the Brookings report, I might add that the government has had the benefits of criticisms and recommendations from a long series of commissions and reports, from the Brownlow and Hoover studies down to the present. And yet there is still a need for more adequate conceptualization of standards for evaluating and assessing decisions and processes for making decisions, within and outside the government. Surely the criteria do not shift from decision to decision and surely there is something common to all the policy processes of the government. If every decision is essentially different from every other decision, then the Senate is not likely to enlighten itself by studying government organization and inviting proposals for changing it.

A Dearth of Behavioral Science

A brief and final comment is that there is really very little of the behavioral sciences in these studies. Economics is well represented. There is some recognition of organization theories in the Brookings volume, and the Stanford Research Institute briefly considers developments in the psychological and social sciences related to international communications and makes a plea for the greater use of the sciences of human behavior. But these references are meager in comparison with the rich literature on opinion and attitude formation and change, value analysis, organizational behavior, decision theory, innovation and creativity, and the interrelations of personality and organizational roles. Such are a few behavioral science topics which seem relevant to the concerns of foreign policy-making.

Why are developments in these subjects not receiving more attention from the government? Is it because they have nothing to contribute? Does the answer lie with the people who advised the Senate Committee? Or are social scientists not drawing the policy implications? Perhaps, "If the hill will not come to Mahomet, Mahomet will go to the hill."

[4] "The Formulation and Administration of United States Foreign Policy," No. 9, p. 19.

Topics and Critiques

The French Garrison State?

The French seem to be proving that even "little wars" are hard on liberty, giving some Americans wry satisfaction in memory of the Korean War, when French intellectuals lambasted us for minor excesses. Now, over 140 prominent intellectuals, including writers, teachers, and actors, have come under a French Cabinet ban for signing a recent manifesto supporting men who might refuse Algerian military service. To liberal critics of the welfare state, the actions are highly suggestive: withholding of subsidies from films connected with the critics, suspension of civil servants among them, blacklisting them on state-operated radio and TV networks and in state-operated theatres. We are waiting to see whether a new group of French refugees will result, and whether the anti-American or pro-Soviet among them will hustle into the USSR. More likely they will come to America where the intelligentsia, kind and short-memoried, will welcome them for what they are today.

Suppression of Jews in the Soviet Union

On Yom Kippur, 17 important American Jewish organizations joined in lamenting the Soviet destruction of Jewish culture in the USSR. They declared that there was not a single Jewish school, even in Birobidjan, and that the Hebrew language cannot be taught. Jews are said to have been removed from many responsible posts in government. Jewish contacts with the outside world have been prevented, and emigration made almost impossible. (A 1959 B'nai B'rith survey of 15 Soviet newspapers found 77 strongly anti-Semitic articles.)

Soviet-American Student Exchange

The Soviet-American exchange of postgraduate students was initiated in 1959, and high hopes were expressed that it would remain apolitical. The 1960-61 agreement envisioned an exchange of 35 students. Soviet students are proposed by the USSR Ministry of Secondary, Special and Higher Education, approved by the Inter-University Committee on Travel Grants, representing 18 American universities. American students are selected by the reverse process. Last June the American committee informed the Soviet ministry that it could accept only 27 of the 35 Russian students proposed because too little information concerning the interests and qualifications of some had been supplied. In a letter to the *New York Times* in August, the Soviet minister-in-charge maintained that the Soviet list had contained "exhausive information" and then turned to criticize some proposed American studies: "post-graduate Martin Katz of the University of California wants to work on the political biography of Mikhail Katkov, a reactionary and odious figure in the history of our people. Any American post-graduate is well entitled to study the man's activities, but we have no scientists who would agree to waste their time on directing this work." The *Times* pointed out that the project was actually being worked on by at least two Soviet scholars, one at Moscow University and one at Leningrad. The Soviet minister also cited the separation of state and church in the Soviet Union, stating that "Our scientists do not study the history of religious sects. But postgraduate Andrew Blain would like to have an academic advisor on a subject devoted to the history of sectarian rationalists of 1890-1911. Understandably, we cannot receive a postgraduate student with such a subject." In fact, *Voprossi Istorii* and *Voprossi Filosofii* each carried scholarly articles on the subject within the year. Ultimately 21 students were exchanged, including neither Mr. Katz nor Mr. Blain.

Five Universities Hit Ford Foundation Jackpots

In return for promises to match the grants from new sources by two to one, Notre Dame has received $6 million from the Ford Foundation, Johns Hopkins the same, Denver $5 million, and Vanderbilt $4 million. Stanford gets $25 million and must match it with three times that amount. It appears that the behavioral sciences will benefit from some of the funds received at Notre Dame; the natural sciences will get the lion's share elsewhere.

It is a pity that the Ford Foundation cannot distribute its major sums in ways that do not make it seem a little superfluous. Except for considerations we are too discreet to suggest, why should a foundation be only an intermediary between a university and a donor? We once suggested how foundations might escape this fate by giving to creative individuals (see "How to Simplify a Foundation's Work," *PROD*, May 1960, p. 36), and hope no one thought we meant university presidents. The truth is, of course, that large foundations have paths and momentums that are little changed by pleas or reasoning. Although created to spend money thoughtfully for special purposes, foundations on the whole act as conventionally and routinely as the average college, government office, and business firm, which have much better reason for treating thought as a precious interlude in a life of action.

ON THE COVER: "The Rout of San Romano" by the mid-fifteenth century Florentine painter Paolo Uccello, commissioned by Cosimo de'Medici and presently in the Uffizi Gallery in Florence. Uccello, more than any of his predecessors or contemporaries, was preoccupied with the application of precise mathematical science to space in art.

Giorgio Vasari, the sixteenth century biographer of Renaissance painters, wrote that "Paolo was forever investigating, without a moment's intermission, the most difficult problems of art, insomuch that he reduced to perfection the method of drawing perspectives from the ground-plans of houses and from the profiles of buildings. . . . So greatly, in short, did he occupy himself with these difficulties, that he introduced a way, method, and rule of placing figures firmly on the planes whereon their feet are planted, and foreshortening them bit by bit, and making them recede by a proportionate diminuation; which hitherto had always been done by chance."

Vasari's criticism of Uccello's studies in perspective strike a tone familiar to the modern social scientist: "although these are ingenious and beautiful [studies], yet if a man pursues them beyond measure he does nothing but waste his time, exhausts his powers, fills his mind with difficultics, and often transforms its fertility and readiness into sterility and constraint. . . . And there is no doubt that if a man does violence to his nature with too ardent studies, although he may sharpen one edge of his genius, yet nothing that he does appears done with the facility and grace which are natural to those who put each stroke in its proper place temperately and with a calm intelligence full of judgment, avoiding certain subtleties that rather burden a man's work with a certain labored, dry, constrained, and bad manner. . . ; for the spirit of genius must be driven into action only when the intellect wishes to set itself to work and when the fire of inspiration is kindled, since it is then that excellent and divine qualities and marvelous conceptions are seen to issue forth." (Quotations from Vasari, *Lives of the Most Eminent Painters, Sculptors, and Architects*, N.Y.: Modern Library, 1959, pp. 20-21.)

The City and the Ring
The Two-Way Street of Metropolitan Reorganization

by HENRY J. SCHMANDT

Demands for integrated government for cities and their suburban rings have overlooked some of the facts of the matter. Henry Schmandt of the University of Wisconsin's Department of Political Science cites some examples drawn from a study of Milwaukee suburbs and their council members. Suburban economic life is becoming increasingly distinct from that of the central city, giving the lie to the "bedroom suburb" image and giving rise to political conditions that may make sweeping metropolitan reorganization increasingly difficult.

Political scientists engaged in urban research are often asked to provide solutions to immediate problems of metropolitan government. But in fashioning their prescriptive proposals for urban reform, they are preoccupied with the concepts of management efficiency and administrative orderliness. They have accepted the assumption that a metropolitan area is a socially and economically interdependent unit, and in this sense a community. They have usually been content to support their case for governmental reorganization by invoking the time-honored precepts of "efficiency" and "economy," and such truisms as "the metropolis must be developed as an integrated whole"; "area-wide problems demand area-wide solutions"; "disease does not respect boundaries."

What political scientists generally have *not* done is to investigate systematically the political structure of the metropolis, as it relates to and is affected by metropolitan interdependence. They have paid little attention to the relations between the politics of the metropolis and its changing composition.

Ecologists, for example, have pointed out that one result of metropolitan decentralization is an increasing functional diversity in suburban areas. This change has many implications for governmental reorganization, but they have received little attention in the literature of urban political science. That literature has been largely reformist and action-oriented. Almost universally it accepts the common image of the suburbs—dormitory villages peopled by middle class emigres who have fled the central city but still work within its corporate boundaries. Such an image not only over-simplifies the work-residence pattern, but also disregards the long history of industrial development *outside* the central city and the steady increase of blue-collar suburbanites.

THE MILWAUKEE METROPOLITAN AREA

The urban complex of Milwaukee County illustrates several facets of metropolitan decentralization and its political consequences. The county encompasses 239 square miles, all within municipal boundaries, and slightly over one million people. In addition to the central city, where about 73 per cent of the population lives in 40 per cent of the county's area, the county includes 18 suburban municipalities, with populations ranging from 1,200 to 68,000. Seven of these communities have been in existence for more than 50 years, eight have been established since 1950.

There are wide functional and social differences among these suburban communities, parallel in many ways with the differences among sections or neighborhoods of the central city. Some of the communities have large industrial concentrations, others are almost exclusively residental. Some contain large numbers of clerical and blue collar workers, others are predominantly upper income. Some are Democratic strongholds, others are Republican enclaves. The suburban pattern, in short, is not homogeneous. It is socially, economically, and politically diverse.

TABLE I: WHERE SUBURBAN MILWAUKEE COUNCILMEN WORK, 1960

TYPE OF COMMUNITY	PET CENT EMPLOYED IN THEIR OWN COMMUNITY	ANOTHER SUBURB	THE CITY OF MILWAUKEE
Industrial	85%	2%	12%
Mixed	45	5	50
Residential	27	11	62

About 465,000 people work in Milwaukee County, a fifth of them in the suburban communities. And since the central city is now hemmed in by a solid ring of incorporated municipalities, and suitable space for nonresidential expansion within its boundaries is largely exhausted, there will be substantial industrial decentralization in the future. The trend was apparent in 1959: the value of taxable new construction of manufacturing facilities in the suburbs exceeded that in the City of Milwaukee by almost 60 per cent.

SUBURBAN COUNCIL MEMBERS

What are the effects of suburban diversification? One effect—though certainly not the only or most important one—involves the relation between the functional character of suburban communities and the place of work and occupation of their legislative council members.

In a recent study, the suburban Milwaukee municipalities were divided into three groups: industrial, residential, and mixed. This typology was based on an employment-residence ratio: the number of jobs provided in manufacturing establishments within the community in relation to the total number of employed residents. Suburbs where manufacturing jobs equalled at least 50 per cent of the total number of employed residents were classified as industrial; those where the number was less than 10 per cent, residential. Communities between these two limits were termed mixed. Of the 18 suburbs in the county 5 are industrial, 10 residential, and 3 mixed. Several of the residential communities are potential mixed suburbs. The others, because of their present corporate boundaries, are destined to remain residential.

Suburban council members' places of work are related to the type of suburb in which they live, as Table I indicates. Sixty-three of the 120 men serving on suburban legislative bodies work in their own communities, nine work in other suburbs. Only 48, or two-fifths, most of whom live in the residential suburbs, work in the central city. Some 85 per cent of the council members in industrial satellites and 45 per cent in mixed suburbs are locally employed, as against only 27 per cent in residential communities.[1]

The same industrial-mixed-residential typology was used to examine the occupational characteristics of the suburban councilmen. Table II demonstrates that substantial numbers of blue and white collar workers serve on local boards in industrial suburbs. On the other hand, professional men and managers generally dominate lawmaking bodies in the residential suburbs. (In the lower income dormitory suburbs, however, there are more council members having lower-ranking jobs.)

As expected, the differences in occupational status among local councilmen reflect fairly closely the social and economic composition of their respective communities. These differences are one more example of the broad pattern of suburban diversification.

THE FUTURE OF METROPOLITAN REORGANIZATION

This Milwaukee study suggests that as the number of jobs increases in the metropolitan ring, more and more suburban councilmen

[1] There are no data on the work-residence pattern of the general population, though it may soon be available. The 1960 census has for the first time collected information on place of work. If the coding is sufficiently detailed, these data should throw considerable light on the work-residence and commuting patterns in metropolitan areas.

TABLE II: The Occupations of Suburban Milwaukee Councilmen, 1960

Type of Community	Professional and Managerial	Sales	White Collar Workers	Blue Collar Workers	Local Merchants
Industrial	17%	15%	17%	36%	15%
Mixed	44	11	11	23	11
Residential	48	21	13	10	8

will be locally employed. This can have important political consequences. Suburban councilmen who both live and work in the same community have fewer contacts with the central city and are less aware of its importance and problems than those who *do* work there. The same is true for suburban citizens in general.

Interviews with a sample of suburban Milwaukee councilmen, for example, indicate that locally-employed public officials are more parochial in attitude, more rigid in their conception of local prerogatives, and less concerned with the problems of the larger community than their colleagues who work in the core city. The latter seem less suspicious of their large neighbor and more understanding of metropolitan interdependency—though not to the point where they are willing to disturb local autonomy radically. This is a further indication that as the proportion of locally-employed members on suburban councils increase, the city-ring dichotomy will crystallize still further. The possibilities for reorganizing metropolitan government will then be even more remote than at present.

Other factors point in the same direction. As industrial development increases in the metropolitan ring communities, suburban governments will be better able to furnish adequate services for their citizens. Even now, service levels in the Milwaukee industrial suburbs are relatively high, as are those in the well-established residential communities. As metropolitan decentralization increases, more outlying communities will modernize their governmental structures and professionalize their services. And with developing bureaucracies and expanding functions, these communities will become more self-contained, independent, and resistant to inroads on their autonomy.

The effect of decentralization on relations between the city and the ring is only one aspect of the total picture. *Inter-suburban* political relations are also affected by increasing diversifications. Interdependency is not a simple two-way relationship between the core and the ring. The development of outlying centers of employment is creating significant lateral movements of workers from one suburban community to another, thereby increasing the degree of dependency *among* the ring communities. So far there is no indication that an inter-suburban political rearrangement is any more likely than a city-ring settlement. Here again, the political concomitants of metropolitan decentralization remain largely unexplored.

Ecologists and demographers in recent years have shown us the radical modifications taking place in the spatial distribution of urban functions and people—modifications that represent the adaptive responses of people to the changing conditions and demands of modern metropolitan life. The challenge facing the political scientist is to relate the structure and processes of local government to these changes.

"How odd it is that anyone should not see that all observation must be for or against some view if it is to be of any service."

Charles Darwin

The Revolution in Intellectual Work

by M. Vasiliev *and* S. Gusciov

About two years ago two Soviet journalists surveyed the prospects of science as seen by Russia's leading scientists and reported their findings in a semi-popular book, Today and Tomorrow in Russian Science. *This selection was translated from an Italian edition of the book,* L'oggi e il Domani della Scienze in Russia *(Milan: Aldo Martello, 1959). The authors outline some of the consequences of electronic computers and related devices, as suggested by S. A. Lebedew of the Soviet Academy of Science. In addition to mathematical and statistical uses, computers will have extensive applications in industry and in the retrieval and transmission of information. Man's intelligence will remain superor but, in effect, the devices will revolutionize mental work. The set of ideas closely parallels American commentary on the subject over the past decade.*

A century and one-half ago computers did not exist and neither did the electronic science from which the machines developed. They were merely a dream: to create a mechanism capable of carrying out the work that only the most marvelous of existing mechanisms could do—the human brain. History has it that Napoleon, who had a passion for chess, once played the game with a mechanical adversary. The creator of this extraordinary apparatus showed the Emperor its mechanism: a wonderful ensemble of wheels, levers, and gears set in a metal casing. Notwithstanding all Napoleon's efforts and skill, he is said to have been badly beaten by his mechanical opponent. The secret of the mechanical chess player was soon revealed. A midget, a skilled player, was concealed among the gears of the mechanism, and when a fire broke out during a game he had to abandon his hiding place precipitously.

At present, chess-playing machines really exist. One of these mechanical chess-players is said to have played the great chess master, Reshevsky, to a tie. Electronic computers are involved. They are quite different from machines constructed to mechanize man's physical labor alone, such as excavating machines, tractors, reapers, and threshers.

An Interview with An Academician

We went to the outstanding specialist in the field, the academician Sergei Alexeievic Lebedew, who heads the Institution for Precision Mechanics and Calculating Techniques of the Soviet Academy of Sciences, to ask him about the future of these marvelous machines.

"It is almost impossible to talk of the future in the field of our technique," he told us. "Even now, scientists can scarcely keep pace with and find applications for many of the possibilities put at their disposal by electronic computing equipment. There are so many examples that, frankly, I would not know which would be the most interesting.

"The first of these apparatuses was created in 1945. In twelve years mathematicians, with the help of this equipment, have succeeded in solving the most complicated problems. How could one explain by a simple example? Each scholar knows that the solution of equations with two unknowns requires two or three minutes, and that a system with 200 unknowns requires the sacrifice of several million times that. This means that a man with the courage to complete this enterprise with pencil and paper would work at calculation for twelve years, day and night.

"The computer instead resolves this system in less than an hour. In one hour it can compose the table of logarithms on which mathematicians once spent decades.

"But even speeds like these no longer satisfy mathematicians and physicists dedicated to nuclear research. The machines are presently capable of solving the most dif-

ficult equations in industry. In science, however, problems that cannot be solved without increasing the working speed of the machines are appearing with ever greater frequency.

"In the beginning, the speed reached only one thousand operations a second. We have already achieved tens of thousands and in the near future the machines will make hundreds of thousands and even millions of operations a second.

"Let us take construction, for example. There was no ready way to determine which form and gradient to give canal banks to prevent them from giving way. All kinds of calculations were made. But after the builders had proceeded a few hundred yards, the composition of the terrain would change and the previous calculations would no longer be useful. Thanks to mathematical inexactness, time, work, and money were lost. Computers now give full confidence.

"Meteorologists have begun to make weather predictions with much greater precision with the use of these machines. In one hour they can give the weather forecast for all the Soviet Union for the next day.

"Electronic aids permit mathematicians to try a great quantity of variants of a problem and to choose the best one. Thus, one can determine the most effective shape for an aircraft wing, a jet engine nozzle, or turbine blades.

"In our country many computation devices are already in operation and Computation Centers have already been instituted. In the present five-year plan a vast application of electronic computers is foreseen. Particular attention must be given to production. Electronic devices will be able to manage various operations, assembly lines, and perhaps even entire plants. The machines will help men undertake complicated technical processes that require uninterrupted attention and the weighing of a great many factors, and will be able to furnish an immediate solution.

"The most intelligent and zealous student will not be able to repeat with precision the movements of an expert teacher who has studied the details of metal working for decades. Will the art of this master die with him? No. We will be able to note and record every movement of the master and, on the basis of these annotations, the tool of the computer will be able to work without human participation. Automatic tools of this kind already exist. Any detail, even the most complex, can be described by a series of mathematical formulas. Based on these formulas, electronic machines will assure precision in the details of the tool.

"It is difficult to say what would have happened to statistics if computers had not come to their aid. The automation of the technical side of statistics liberates a mass of employees from the exhausting work of computation.

"The radio industry plans to produce tens of millions of television sets and radios a year. In each set, there are thousands of parts. They will be fabricated by hundreds of specialized industries. Computers rapidly calculate the production plan for each piece."

Book Transmission

Professor Lebedew spoke laconically and authoritatively. Every idea he expressed raised wonderful pictures in our imagination.

We visualized a small village in the Transcarpathia or in the Ukraine. The sign "Book Transmission" appears on one house. Young men and women, evidently students from the high school or the technical institutes, enter the house. Each one arrives punctually. Within, bluish screens of television sets shine in booths such as those used for international telephone communications. Several students are admirers of the great inventor, Taras Scevcenko. Attentively they read from the screen data about his biography. In the next booth, columns of formulas appear on the screen and an invisible speaker helps future technicians to master the basis of higher mathematics. This morning a teacher has advised a student to repeat a mathematics lesson with the aid of book transmission and gave him a ticket on which was written: "Dear Mr. Librarian, would you please help our student by transmitting the

lesson in mathematics from Lvow immediately. It may be worth the trouble to record the transmission, in order to have it on hand."

Human Memory and Electronic Memory

What sort of a miracle is this? Who is the library technician? How can a lesson be received from Lvow?

Book transmission includes any type of literary, historical, or scientific information, and is carried out on request with the aid of television installations. A radio is not necessary to receive a transmission. All that is necessary is a simple reproducer. Thousands of reproducers are linked to the radio transmitters. The book transmitting network works in the same way.

There are few books in the village library. There are many more in the library of the regional capital at Lvow and even more at Kiev and at Moscow. There are hundreds of thousands of books in the great libraries, and the vastness of themes and problems to solve is so great that hundreds of bibliographic consultants are necessary for information work. But even the specialists cannot keep in mind the vast range of concepts that man has accumulated, and they must devote whole days to consulting catalogs, checking thousands of cards.

Man will be able to avoid weighing down his memory with this great quantity of technical information. He will be helped by the "memory" of electronic information machines. Upon request, the machine will search the appropriate category and will put into operation the magnetophonic tape on which are produced not only words but also images. Thus, a great quantity of information is stored in the film library of the book center, and electronic devices "memorize" and choose each excerpt from among millions of magnetic tapes and microfilms. They transmit the mathematics lesson to the village in Transcarpathia; they speak to students of the life of Scevcenko. The function of the rural library technician is to help readers and radio listeners by making out requests for information and directing them immediately to the appropriate center. This library technician is the librarian of the coming century.

We are at an international conference. A machine no larger than a desk translates an orator's speech immediately into all languages, whatever language he may speak. Such a translating device is possible today. The problem is the speed of operation, and the steps necessary to accelerate machine operation are already known.

In general, computers will facilitate and reduce man's toil and will free him from monotonous arithmetical work. It is discouraging to note that the productivity of factory workers has increased in the last century by 1400 per cent, while in office work it has grown by only 40 per cent. But in coming years even this inconvenience will be taken care of. There will be a great revolution in the output of mental work.

The computer will help man, and in some cases will even surpass him, but it will never be able to replace him. Human intelligence will always be superior to man's mechanical child. Only man can suggest the most economical means to the solution of a problem and propose to the machine a new and more perfect plan. Man increases the speed, accuracy, and productivity of the machines, simplifies their construction, and reduces their size.The first computers contained 18,000 vacuum tubes but today their number has already been reduced to 4,000, and in coming years there will not be even one; all the tubes will be replaced by semi-conductors and transistors.

"The utilization of these new devices, the new organization of man's intellectual work," concluded Professor Lebedew, "can be compared, in terms of results achieved, only with the past century of humanity's history, in which mechanical work was introduced to replace manual work. The machines revolutionized physical work. Now we are entering the revolutionary phase of intellectual work."

Value Conflicts in the Law of Evidence

by WILLIAM M. EVAN

The law of evidence involves the courts in conflicts of abstract values, such as "due process" with "substantive justice," and conflicts between society and institutions. The larger "objective" truth is sometimes subordinated to the social values placed by the courts and law upon familial and professional-client relations. Although the law of evidence has been increasingly rationalized over the past thousand years into something resembling the rules for seeking scientific truth, group functions and rights have been developing apace. The author is associated with Bell Telephone Laboratories at Murray Hill, New Jersey.

The case of *Rochin v. California* (342 U. S. 165, 1951) introduces our problem of science, value, and law. Three deputy sheriffs illegally entered Rochin's house and forced their way into his bedroom, where they found two capsules on a stand beside the bed. When the officers asked whose they were, Rochin seized the capsules and put them in his mouth. The officers then assaulted him in an effort to extract the capsules. Failing in this, they handcuffed him and took him to a hospital where, at their direction, a doctor forced an emetic solution through a tube into Rochin's stomach. This "stomach pumping" brought up the capsules, which contained morphine. The capsules were used as the chief evidence for Rochin's conviction. The decision was upheld in the appelate court but reversed by the Supreme Court of the United States on the ground that it violated the Due Process Clause of the Fourteenth Amendment.

In this case the California narcotics law, designed presumably to protect the health and morals of the public, was subordinated to the Due Process Clause, which safeguards the citizen against the abusive and arbitrary exercise of authority by the state. The conviction was reversed not because of any doubt about the validity of the evidence of violation of the narcotics law, but because of the methods by which it was obtained. Justice Felix Frankfurter, in giving the majority opinion, analogized the case to a conviction based on a coerced confession: "This course of proceeding by agents of government to obtain evidence is bound to offend even hardened sensibilities. They are methods too close to the rack and the screw to permit of constitutional differentiation." One concurring justice argued that the evidence was secured in violation of the Fifth Amendment. Another concurring justice contended that the conviction violated the Fourth Amendment, which proscribes "unreasonable search or seizure."

IN PURSUIT OF JUSTICE

In the case of *Rochin v. California,* as in all cases, the avowed objective of the court is a just decision. "Justice" is the desired end of the judicial process and one of the institutionalized means to achieve this end is the law of evidence. The concept of justice, like that of law, however, continues to be the subject of controversy in jurisprudence. Exponents of natural law conceive of justice and law as transcendental values rooted in divine will, whereas adherents of legal positivism contend that they are an expression of the will of a sovereign state.

From a sociological rather than a jurisprudential point of view, law is a body of norms with institutionalized methods of enforcement and justice is a set of cultural values justifying them. Thus, justice might be called a complex of political, religious, economic, familial, and other institutionalized values—of the culture of one or more societies—which serves as the foundation of law. Or as Rene Savatier puts it, law is "the incarnation of justice and all the moral

values which go with it."[1] And the courts administering justice adjudicate disputes in terms of some working conception, however accurate or inaccurate, of the values comprising justice. The empirical basis of the court's conception of the community's "sense of justice" has only recently been systematically investigated.[2]

The law of evidence, from a sociological point of view, is a body of rules governing judicial investigations into questions of *fact*, designed to regularize the behavior of actors in a significant type of social situation. As one of its functions, it purportedly assists in "the discovery of truth in trials." As an instrumental value designed to achieve the goal of justice, however, the law of evidence may come into conflict with some component values of justice. Analysis of this recurrent legal situation provides an opportunity to identify, among other things, the values, conflict of values, and hierarchy of values embodied in law and reflected in judicial decisions.

The system of rules comprising the law of evidence is a product of centuries of development toward rationalization. Legal scholars have termed this body of law a "child of the jury trial system." With the rise of the English jury system in the thirteenth century, such "irrational" methods as trial by oath, by ordeal, by battle, and by other rituals were gradually eliminated. Inquisitorial procedures by church and state were replaced by an adversary court system. The reliance on a group of one's peers to determine the facts of a case democratized the administration of justice and provided protection against arbitrary acts by government or ecclesiastical authorities. As the law of evidence slowly evolved along with common law, it underwent a process of rationalization and secularization. As Max Weber pointed out, the previous "formally irrational" trial systems, with their dependence upon magic and divine interposition, were superseded by "formally rational" procedures more in harmony with the ethos of modern science. These rational, secular, and democratic changes in the legal system—changes associated with the emergence of the liberal state—were functional requirements for the rise of capitalism.[3]

The Role of Science

In the modern era the value of truth is identified preeminently with the ethos of science. And in keeping with the historical trend toward rationalization in the law of evidence, the legal profession is making relatively increasing use of social science methodology in determining questions of fact.[4] Survey data, for example, have been given judicial consideration in a number of cases, though they are still not consistently admitted as evidence. In some cases survey data have been excluded on the ground that they violated the hearsay rule, since the interviewees were not available in court for cross-examination. Content analysis has been used in several instances; and recently, psycholinguistic techniques have been employed in a criminal case to ascertain whether a confession was coerced.

Notwithstanding the long-term rationalization process in the law of evidence, a court trial has hardly been transformed into a scientific investigation. Conflicts of cultural values intrude forcibly. Whereas the search for truth in the form of verifiable and abstract knowledge is, ideally, the controlling factor in the conduct of a scientific inquiry, values other than the pursuit of truth—as illustrated in the case of *Rochin v. California*—dominate a trial.

Technical specialists do not disinterestedly investigate all available data bearing on a

[1] In "Law and Progress of Techniques," *Intl. Social Science Bulletin*, IV (1952), p. 310.

[2] See Julius Cohen, Reginald A. H. Robson, and Alan Bates, "Ascertaining the Moral Sense of the Community," *Journal of Legal Education*, VIII (1955), pp. 137-49; and their monograph, *Parental Authority*, Rutgers U. Press, 1958.

[3] *Law in Economy and Society*, Cambridge: Harvard U. Press, 1954, pp. xlviii-lxiii, 61-64, 73, 227-28.

[4] See H. C. Barksdale, *The Use of Survey Research Findings as Legal Evidence*, Pleasantville, N.Y.: Printers' Ink Books, 1957; J. L. Woodward, "A Scientific Attempt to Provide Evidence for a Decision on Change of Venue," *American Sociological Review*, XVII (1952), pp. 447-52; *United States v. Pelley*, 132 F 2nd 170 (7th Cir. 1942); Richard Arens and Arnold Meadow, "Psycholinguistics and the Confession Dilemma," *Columbia Law Review*, LVI (1956), pp. 19-46.

case and report their findings to a judge, who in turn arrives at a decision by finding the best "fit" between the data and an unambiguous law. Instead, in accordance with the adversary court system, counsel for each party presents partisanly-selected data, subject to admissibility rules of evidence, often to a jury of laymen who arrive at a verdict. A striking paradox may be briefly noted: the existing adversary court system presupposes a "perspectivistic" approach to truth, as opposed to the non-perspectivistic or objective approach which underlies the methodology of scientific inquiry as well as the inquisitorial court system current in the Middle Ages and in modern totalitarian states.

Unlike the canons of scientific inquiry, the law of evidence includes an elaborate body of rules of admissibility, some of which have the general effect of promoting the search for truth, and others of obstructing it. In the former category are rules of hearsay, original writings, authentication of documents, testimonial qualifications, and impeachment of witnesses. These attempt to ensure that answers of more probative values are given to controverted questions of fact. They are also designed to exclude evidence to which lay jurors might attach too much weight.

The Case of Testimonial Privilege

Testimonial privileges, on the other hand, are rules that tend to obstruct the search for truth. They include, on the one hand, privileged *acts* such as self-incrimination; and, on the other hand, privileged *communications* such as those between attorney and client, physician and patient, husband and wife, and priest and penitent.

The rationale for the testimonial privilege is phrased in terms of "social policy," *viz.*, that values such as marital harmony and stability take precedence over the ascertainment of truth. "The basic reason the law has refused to pit wife against husband or husband against wife in a trial where life or liberty is at stake," says Justice Black, "was the belief that such a policy is necessary to foster family peace, not only for the benefit of husband, wife, and children, but for the benefit of the public as well." (*Hawkins v. U.S.*, 79 S. Ct. 136, 138, 1958.)

Similarly, it is argued that the religious values of the priest-penitent privilege and the delicacy of health considerations in the doctor-patient privilege must be protected in a court trial, even if it be at the expense of rationality in the fact-finding procedure. Thus the rules of testimonial privilege, as distinct from most exclusionary rules of evidence, point to a conflict between means and ends in the law of evidence: the ascertainment of truth of litigated propositions vs. the preservation of values embedded in various institutions and also comprising elements of the concept of justice. So "truth is barred."

Testimonial privileges may be waived, since they are options conceded to classes of persons to decline giving certain testimony. How often are these privileges in fact claimed? When they are claimed, how crucial does the excluded testimony *appear* to be to the structure of the evidence presented and to the judicial decision? To what extent are present rules of privileged communications held essential or desirable by the various professions and client-publics? Is the public at large in favor of an extension or a restriction of testimonial privileges pertaining to professions?

One condition necessary for the establishment of privilege is that "the *relation* must be one which in the opinion of the community ought to be sedulously fostered."[5] With respect to the husband-wife privilege, Justice Steward in *Hawkins v. U.S.* raises a relevant empirical question: "Before assuming that a change in the present rule would work such a wholesale disruption of domestic felicity as the court's opinion implies, it would be helpful to know the experiences in those jurisdictions where the rule has been abandoned or modified."

A similar question may be asked with respect to the priest-penitent and physician-patient rules of privilege. Is the professional-client relationship at all impaired in those States which do not have these privileges? Since the confidentiality of the professional-

[5] John H. Wigmore. *A Treatise on the Anglo-American System of Evidence in Trials at Common Law.* Boston: Little, Brown and Co., 1940, Vol. 1, p. 531.

client relationship is prescribed in the codes of ethics of all professions and is a culturally-approved relationship, it is doubtful whether the relationship would be jeopardized in the absence of rules of privileged communications. In jurisdictions in which statutory provisions for these privileges or such common-law rules do not exist, are those privileges informally recognized or judicially noticed? If they are judicially noticed, is it because the courts take cognizance of the "customs" of the professions?

Apart from the explicit values which the rules of privileged communication seek to protect, it is not fortuitous that the only occupations covered are such long-established professions as law, clergy, and medicine. This may be partly a reflection of the prestige of these occupations and their organizational power to protect their vested interests. By contrast, such new professions as journalism, accounting, and social work—except in a few jurisdictions—are not covered by these privileges.

In this respect, the old profession of teaching is an anomaly. Why are teacher-student communications, particularly at the college level, not privileged? If the legal status of teaching and the new professions is explained by differential organizational power, rather than by other factors, a question arises. As these professions develop strong organizations, will they demand statutory extensions of the rules of privileged communication?

Moreover, given a general trend toward professionalization of various occupations and a further extension of occupational licensing laws, may we expect an increase in the number of occupations covered by testimonial privileges? If testimonial privileges *are* extended to an increasing number of occupations, the secular trend toward a rationalization in the law of evidence will be impeded, leading to more value conflicts between the instrumental and the terminal values of the judicial process.

If the trend toward rationalization does continue, however, testimonial privileges may be reduced or eventually eliminated. In the opinion of one legal scholar, Charles McCormick, "The manifest destiny of evidence law is a progressive lowering of the barriers to truth. . . . One may hazard a guess . . . that in a secular sense privileges are on the way out."[6] If this prediction proves accurate, value conflicts may be minimized or resolved. Two dysfunctional consequences of the testimonial privileges would also be reduced or eliminated. We would be better able to predict the results of the litigation process, which is now difficult in part because of uncertainty as to what evidence will be withheld due to testimonial privileges. The social control function of law would be strengthened in that fewer guilty persons would be able to evade punishment with the aid of the law of evidence.

However, if value conflicts are resolved in favor of more rational trial procedures, we may pay a high social cost. Some of the rules of evidence may interfere with a rational investigation of questions of fact, but they also protect the rights of the citizen against the state's monopoly of coercive power and protect values of society that presumably are widely cherished.

Thus we are faced with a dilemma. If, on the one hand, the value conflicts are resolved in favor of increasing *rational* trial procedures, some of the rights of the citizen against the state and some societal values may be threatened. On the other hand, if the value conflicts are resolved in favor of *traditional* trial procedures, to preserve some values of major institutions of our society, the rational pursuit of truth is not only obstructed but judicial predictability is lowered and social control is impaired.

Value conflicts are endemic to complex societies. The type and frequency of value conflicts will vary from one society to another. The legal system provides many problems of value conflicts, as we have seen. An analysis of rules of evidence, or even more particularly testimonial privileges pertaining to occupations, would throw light on the interrelations between selected occupations and the legal system, and it would contribute to an understanding of the rise and decline of legal norms.

[6] *Handbook of the Law of Evidence*, St. Paul: West Publishing Co., 1954, pp. 165-66.

New Studies in Behavioral Science and Public Policy

These items are selected and annotated by the ABS staff in a periodic search of new issues of 250 journals and reviews, including about 100 that are published outside the United States, and from announcements and review copies of books and fugitive materials recently published. Some items of special interest are boxed.

ALT, F. L., *et al.*, eds. *Advances in Computers. Vol. I.* N. Y.: Academic Press, 1960, $10.00. Articles on diverse aspects of design, methods of programming, applications to business management and data processing, etc.

APTHORPE, R., "Political Change, Centralization, and Role Differentiation." *Civilisations*, X (#2, '60), 217-23. Reviews the distinction between centralized and unorganized African polities, distinguishes between political and administrative processes, suggests that "a bureaucratically grounded administrative hierarchy" can be best fostered in *unorganized* African polities.

BAKER, H. R., "The Impact of Central Government Services on the Small Community." *Canadian Pub. Admin.*, III (June '60), 97-106. Specialization of roles, impersonality, and lack of reaction to local interests are among the negative features of central services; reports the opinions of small town citizens and outlines implications for government services in general.

"Africa." *J. of Human Relations*, VIII (Spring-Summer '60), 322-868. A massive symposium, including C. H. Wesley, "The Changing African Historical Tradition"; C. Frantz, "'The African Personality': Myth and Reality"; L.W. Doob, "The Psychological Pressure upon Modern Africans"; R. H. Lee, "Urbanization and Race Relations in Africa"; E. W. Brice, "Development of Social Welfare Institutions and Services in Africa"; C. Williams, "African Democracy and the Leadership Principle"; D. B. Porter, "Research Centers and Sources for the Study of African History"; and 37 other articles.

BERLYNE, D. E. *Conflict, Arousal, and Curiosity.* N.Y.:McGraw-Hill, 1960, $7.50. Behavioristic approach; a highly modified form of drive-reduction theory, stressing neuro- physiology.

BILLINGTON, J., "The Intelligentsia and the Religion of Humanity." *Amer. Hist. R.*, LXV (July '60), 807-21. The Russian conception (both pre- and post-revolutionary) of the intelligentsia as part of the "moving force" of history has its roots in Comte and populism.

BOYER, W. W., "Policy Making by Government Agencies." *Midwest J. of Pol. Sci.*, IV (Aug. '60), 267-88. Analyzes such policy-making as "a cyclical process with five sequential stages: initiating, preliminary drafting, public participation, final drafting, and reviewing."

BUSH, C. R., "A System of Categories for General News Content." *Journalism Q.*, XXXVII (Spring '60), 206-10. Development and testing of a 47-category scheme in terms of reader interest.

CLAYTON, J., "Six Years after Durham." *J. of Amer. Judicature Society*, XLIV (June '60) 18-21. The Durham case in the District of Columbia laid down the rule that if a crime is a product of mental disease or defect, acquittal by reason of insanity must result, followed by hospital treatment; thus far the recidivism rate among those released from treatment has been low and compares favorable with post-prison recidivism.

BELLO, F., "How to Cope with Information." *Fortune*, LXII (Sept. '60), 162-67, ff. The men, concepts, systems, and companies involved in Information Retrieval, including a listing of major present systems and their operation. One cautionary moral: "No amount of mechanization will retrieve anything that has been mis-indexed or mis-coded."

BEREDAY, G. Z. F., *et al.*, eds. *The Changing Soviet School.* Boston: Houghton-Mifflin, 1960, $6.50. Report of 70 members of the Comparative Education Society: a summary of philosophical, historical, and social antecedents of the Soviet school; a description of its formal organization; and a survey of points of contention concerning Soviet training.

CLEAVELAND, F. N. *Science and State Government.* Chapel Hill: U. of North Carolina Press, 1959, $3.50. Nature of research, formulation and administration of policy on scientific undertakings in six States.

CLOUGH, S. B. *Basic Values of Western Civilization.* N.Y.: Columbia U. Press, 1960, $3.00. Such values are the fundamental determiners of any culture; they "reflect in essence the choices which men have made out of a wide range of possibilities as to the way they live, the wants and desires which they attempt to fulfill, and the order with which they strive to achieve recognized goals." Estimates the nature and probable future of typically Western values.

COLE, A. H., "A Note on Social Overhead and a Dynamic Analysis of Industry." *Q. J. of Econ.*, LXXIV (Aug. '60), 413-15. The present elaboration of the concept of "social overhead" or "social capital" is "fuzzy, inadequate, and misleading" and "attempts to describe a uniformity which never existed in real life."

BROZEN, Y., "Trends in Industrial Research and Development." *J. of Business*, XXXIII (July '60), 204-17. Analysis of data on the rapid growth of R&D expenditures. "As soon as we see the correlation between research and return on investment (properly measured) deteriorate . . . the deceleration is about to begin. There is slight evidence that the correlation has deteriorated."

CORBETT, P., "Recent Trends in the Literature of International Law." *Intl. Studies*, II (July '60), 97-104. Inadequacies of traditional doctrine and rules to contemporary demands have led to numerous new endeavors, with varying degrees of success.

DICK, H. R., "A Method for Ranking Community Influentials." *Amer. Soc. R.*, XXV (June '60), 395-404. The "reputational approach" incurs the same methodological problems that arise in attitude scaling generally; reports a study in which they were handled by use of Guttman type scaling and image analysis.

DIMOCK, M. E., "Management in the USSR—Comparisons with the United States." *Pub. Admin. R.*, XX (Summer '60), 139-47. For example: "The Russians rely on planning to secure greater areas of freedom of action than operating officials have had; we are trying to decide whether additional planning would limit our greater operating freedom." "They have borrowed our economic incentive system; we seem to be dropping it."

DOWNS, A., "Why the Government Budget is Too Small in a Democracy." *World Pol.*, XII (July '60), 541-62. A model of a democratic society is used to demonstrate that "As society becomes more complex because of increasing specialization, the governing party is less able to allocate resources to those remote benefits which are of increasing importance to the welfare of the citizenry."

EITNER, H. J., "Russifizierung und Binnenwanderung in der UdSSR." *Aussenpolitik*, XI (July '60), 458-69. Report and commentary on the 1959 Soviet census; one striking observation is the mass movement of Russian factory personnel as well as equipment into the satellites.

ETZIONI, A., "New Directions in the Study of Organizations and Society." *Social Research*, XXVII (Summer '60), 223-28. Systematic study of the interchange between organizations and external collectivities has been neglected; existing work suggests that "mechanisms of socialization and social control embedded in primary groups can continue to function satisfactorily outside modern bureaucracies."

ETZIONI, A., "Two Approaches to Organizational Analysis: A Critique and a Suggestion." *Admin. Sci. Q.*, V (Sept. '60), 257-78. Critique of the goal model for measuring organizational effectiveness; presents and compares two system models, a survival and an effectiveness model. "The systems model . . . seems to supply a safety measure against a common bias, the Utopian approach to social change."

BURT, C., "Logical Positivism and the Concept of Consciousness." *Br. J. of Stat. Psych.* XIII (May '60), 55-77. Critical review of *Logical Positivism* (A. J. Ayer, ed., Glencoe: The Free Press, 1959), concluding that: "The sweeping generalization which the logical positivists have sought to uphold—that 'all sentences of psychology describe physical occurrences'—proves to be quite untenable. No doubt, *some* sentences of psychology can be translated, without remainder, into the language of physics; but the most characteristic cannot, namely, conscious occurences." Sidesteps dualism by stating "that the universe does not possess that simple homogeneous nature for which the passionate monist is for ever pining."

FORM, W. H., and W. L. SAUER, "Organized Labor's Image of Community Power Structure." *Social Forces*, XXXVIII (May '60), 332-41. Interviews of influential union representatives suggest that labor has little desire for a distinctive community program but rather endorses management's priorities and wishes greater representation in the small "clique" which labor leaders believe mediates most community projects and issues.

FERGUSON, L. W., "Ability, Interest, and Aptitude." *J. of Applied Psych.*, XLIV (April '60), 126-31. Various studies suggest the hypothesis that "aptitude [is] a joint function of ability and interest" and that "in predicting success, the greater the time interval involved, the more important becomes interest and the less important becomes ability."

FORSTER, R., "The Nobility of Toulouse in the Eighteenth Century: A Social and Economic Study." *Johns Hopkins U. Studies in Historical and Pol. Sci.*, LXXVIII (#1, '60). The revenues, outlooks, and modes of living of the provincial aristocracy were more varied than is generally assumed.

FREEMAN, H. E., and O. G. SIMMONS, "The Use of the Survey in Mental Illness Research." *Mental Hygiene*, XLIV (July '60), 400-10. It provides "parameters and descriptive data, comparing characteristics of mentally ill persons and their families with 'normal' populations, and documenting relationships between patients' posthospital performance . . . and family settings."

FRIEDRICHS, R. W., "Alter Versus Ego: An Exploratory Assessment of Altruism." *Amer. Soc. R.*, XXV (Aug. '60), 496-508. "Altruism" is defined operationally in an experimental situation and is found to have an identity distinct from social acceptability, popularity, and so forth; it seems a definite dimension of social interaction.

GEORGESCU-ROEGEN, N., "Mathematical Proofs of the Breakdown of Capitalism." *Econometrica*, XXVIII (April '60), 225-43. A model of the Marxist scheme, free from "dimensional contradictions" but embodying most essential points of Marxist rationale, when worked to its conclusion suggests not so much the breaking down of capitalism as its transformation.

GILFILLAN, S., "An Attempt to Measure the Rise of American Inventing and the Decline of Patenting." *Technology and Culture*, I (Summer '60), 201-14. Patenting "has greatly declined relative to the rate of inventing, which has risen enormously. Chiefly responsible . . . is the vast efflorescence of invention and research financed by big business and by the federal government, making little use of patents."

GIRARDET, R., "Sur le guerre subversive." *Contrat Social*, IV (July '60), 243-48. The analysis and interpretation of underground warfare, especially as encountered by the French, poses "very delicate problems of political order, juridical order, to modern political societies, especially to liberal political societies."

GLASS, B., "The Academic Scientist, 1940-1960." *Science*, CXXXII (Sept. 2, '60), 598-603. The academic scientist will be, "like it or not, the dominant figure in higher education in a very few decades." "The humanities and social sciences, on their part, must do more than merely recognize that the natural sciences exist. They must become permeated with the knowledge and spirit of science if they are to be more than relics of a departed age."

KESSEN, W., "Intellective Development in Children: A Conference on Piaget's Contributions in Relation to Other Theories of Children's Thinking." *SSRC Items*, XIV (Sept. '60), 25-30. A conference of SSRC's Committee on Intellective Processes Research in April 1960, encompassing the genetic study of cognition, Piaget's research methods, the concept of "stage," perceptual and conceptual development, and the learning and simulation of cognitions.

GOMBRICH, E. H. *Art and Illusion*. N.Y.: Bollingen, 1960, $10.00. Recent theories of visual perception are used to explore the relations between the viewer and a work of art, drawing on the full history of art for examples.

GREENACRE, P., "Woman as Artist." *Psychoanalytic Q.*, XXIX (April '60), 208-27. In general, fewer women than men have substantial artistic or scientific creative talent; there are a number of early genetic factors "which may restrict the female's later development of adequate capacity for externalization of artistic creativity."

HEALY, A. M., and E. R. VEREHODGE. *The Map Approach to African History*. London: University Tutorial Press, 1959 (booklet). Interesting attempt to represent events both in space and in time, combining maps and limited text to deal with exploration, political influence, religious affiliations, current problems, etc.

HUNT, R. N. C., *Books on Communism*. N.Y.: Oxford U. Press, 1960, $2.70. A bibliography, 1945-present, of books in English or translated into English.

INTERNATIONAL CONFERENCE ON INFORMATION PROCESSING. *Information Processing*. N.Y.: Columbia U. Press, 1960, $25.00 (multilingual ed.). Developments, uses, mathematics, designs of a variety of computers.

JARD, C. E., "Personality Similarity and Friendship." *J. of Abnormal and Social Psych.*, LXI (July '60), 47-51. Pairs of friends were found to be significantly alike in personality characteristics. "Personality similarity was interpreted as essentially a facilitator of interpersonal positive affect, the latter being postulated as a key determinant of attraction."

MANN, F. C., and L. K. WILLIAMS, "Observations on the Dynamics of a Change to Electronic Data-Processing Equipment." *Admin. Sci. Q.*, V (Sept. '60), 217-56. General problems of introducing the change and its effects on organizational structure, policies, philosophy, job structure, and personnel at all levels; *e.g.*, less autonomy among departments, movement of the decision-making and control level to fewer and higher positions, drastic changes in job and promotion structure.

JACOBSON, E., H. KUMATA, and J. E. GULLAHORN, "Cross-cultural Contributions to Attitude Research." *Pub. Opin. Q.*, XXIV (Summer '60), 205-223. Such studies delineate aspects of national character as well as fundamental psychological characteristics found in all societies, reveal effects of intercultural contact, and are investigating ways in which language and culture determine the dimensions of attitudes.

KLEIN, D. C., "Some Concepts Concerning the Mental Health of the Individual." *J. of Consulting Psych.*, XXIV (Aug. '60), 288-93. Suggests "a differentiated approach to the problem of human adjustments," recommends attention to the *immediate* state of well- or ill-being.

KOEHL, R., "Zeitgeschichte and the New German Conservatism." *J. of Central Eur. Affairs*, XX (July '60), 132-57. The analysis of National Socialism by the government-financed *Institut fuer Zeitgeschichte* is conservatively founded on "the Christian ethic of responsibility," "the critical empiricism of scientific history," and profound rejection of Nazism.

KOESTLER, A., "Yoga Unexpurgated." *Encounter*, XV (Aug. '60), 7-26. Its origins and current Indian research and practice. The *Yoga Sutras* date from the same period as Aristotle's *Logic*; "Both were sterile and pedantic derivations from a great and original adventure of the human mind . . . ; and while scholasticism is a distant memory, Yoga is not."

HARRIS, S. E., ed., "Higher Education in the United States: The Economic Problems." *R. of Econ. and Stat.*, XLII (Aug. '60, Supplement), 3-247. Some 47 seminar papers under such headings as "Pricing and the Student Body," "Government Aid," "Economic and Educational Values," "Faculty Status," etc., by college officers, government officials, economists.

PFEIFFNER, J., "Administrative Rationality." *Pub. Admin. R.*, XX (Summer '60), 125-32. If the scientist or engineer finds administrators irrational, it is only because administrators consider many more relevant elements when they make decisions than he does. Outlines the bases of information and rationality used in such policy-making, notes that the administrator often merely presides over the process.

LAZARUS, R. S., and J. C. SPIESMAN, "A Research Case-History Dealing with Psychological Stress." *J. of Psych. Studies*, XI (March-April '60), 167-94. A research biography: the trials and tribulations of a long-term research interest—changes in locus, organization, subjects, theory; failures, successes, obscure origins and more obscure future.

"Les Francais et leur médecin." *Sondages: R. Fran. de l'Opin. Pub.*, XXII (#1-2, '60), 5-130. Report and analysis of a survey conducted by the *Institute francais d'opinion publique:* public attitudes toward medicine, resort to treatment, means of payment, etc., analyzed in terms of socio-cultural and professional groupings, environment, region of residence.

LONDON, I. D., "Instrumentation in Soviet Psychological Research: A Contribution to the Methodology of Tourism." *J. of Social Psych.*, LII (Aug. '60), 51-65. Extracts from Soviet publications, which suggest "to the touring psychologist (a) the need for alertness to a more complicated and differentiated picture than that we seem to be getting and (b) what questions to ask and what to look for in order to get at precisely that picture."

MALAKAR, D., "Étude socio-économique des taudis de Calcutta." *R. d'Hist. Écon. et Sociale*, XXXVII (#4, '59), 428-69. Economic and social conditions of the Calcutta laboring class and the impact of urbanization and government activity on them, compared with Parisian experience. Argues that industrial development depends on worker productivity, which in turn rests on the workers' social, economic, and physical well-being.

"The Memory Hole." *East Europe*, IX (Aug. '60), 18-25. Chronicles the re-writing of Soviet history regarding the 1944 Warsaw uprising, the Yugoslav heretics, and the anti-Titoist purges. In the post-Stalin era, "Disputed facts and ideas are more often ignored than actually contradicted."

MARGOLIS, J., "Actions and Ways of Failing." *Inquiry*, III (#2, '60), 89-101. Classifies various ways in which one may fail in an action, interprets these in terms of evaluations rendered, responsibility, character, deliberate decision, etc.

MILLER, E., "Neuroses: East and West." *Soviet Survey*, #33 (July-Sept. '60), 20-30. Soviet case studies suggest that "psychopathological attitudes are feeling their way into Soviet psychiatry"; psychotherapy is frequently employed, although this shift toward a psychological approach has not led to abandonment of Pavlov's neurological model.

MISHNAN, E. J., "A Survey of Welfare Economics, 1939-59." *Econ. J.*, LXX (June '60), 197-265. Attempts to tie up the loose ends of theoretical welfare economics, examining the "optimum conditions of social welfare," the choice of welfare criteria, the doctrine of consumers' surplus, etc.; concludes that "a study of welfare which confines itself to the measurement of goods and their distribution . . . is positively misleading."

NADEL, G., "The Logic of the *Anatomy of Revolution*, with Reference to the Netherlands Revolt." *Comp. Studies in Society and Hist.*, II (July '60), 473-84. Examines Crane Brinton's *Anatomy of Revolution* as a scientific definition of revolution, applies it to the 16th century Netherlands revolt as a test case with some success.

PYE, L. W., "Soviet and American Styles in Foreign Aid." *Orbis*, IV (Summer '60), 159-73. The Soviets "act as though it were possible to predict the indirect effects of any action, and therefore it is absolutely essential to gain complete and direct control of events." American practice denies "the sovereignty of politics" and lacks "a coherence between ends and means," though operationally more skilled.

NEISSER, H., "Economic Imperialism Reconsidered." *Social Research*, XXVII (Spring '60), 63-82. Analyzes the overseas investment process prior to WW I, finds little to support the theory of economic imperialism.

OETTINGER, A. C. *Automatic Language Translation.* Cambridge: Harvard U. Press, 1960, $10.00. Reports a long-term (since 1950) study of fundamental lexical and technical problems.

OPPENHEIMER, J., "Tradition and Discovery." *West. Humanities R.*, XIV (Spring '60), 121-37. Interprets "the struggle, the balance, and the lack of balance between the familiar and essentially timeless in human life, and the always manifest sense of change."

Osgood, C. E., "The Cross-Cultural Generality of Visual-Verbal Synesthetic Tendencies." *Behavioral Sci.*, V (April '60), 146-69. A relatively stable "world view" is suggested by the comparative study of Japanese, Navajos, Mexicans, and Anglos; for example, agreement is found that "happy" is colorful and bright, "man" is thick, etc.

Pasinetti, L. L., "Cyclical Fluctuations and Economic Growth." *Oxford Econ. Papers*, XV (June '60), 215-41. The underlying technical argument, in which cyclical fluctuations and economic growth "emerge as two different aspects or outcomes of the same complex and fundamental process . . . which incessantly motivates the industrial society in which we live.

Resources for the Future. *Regions, Resources, and Economic Growth.* Baltimore: Johns Hopkins U. Press, 1960, $12.00. Summarizes knowledge of economic growth and decline, provides a conceptual and methodological framework for future research in resources and regions.

Patterson, F., ed. *Citizenship and a Free Society.* Washington, D.C.: Natl. Council for the Social Studies (30th Yearbook), 1960, $5.00. Six chapters by social scientists discussing probable future developments likely to have bearing on citizenship, six accompanying chapters by educators on related areas of citizenship education.

Pervin, L. A., "Existentialism, Psychology and Psychotherapy." *Amer. Psychologist*, XV (May '60), 305-09. Existentialism and existential analysis are by no means a complete theory, but "they can be useful to psychology in terms of the approaches and views they offer."

Pilkington, B. W., and P. McKellar, "Inhibition as a Concept in Psychology." *Br. J. of Psych.*, LI (Aug. '60), 194-236. An eight-fold classification of phenomenological and theoretical uses of the concept; all "seem to imply some form of preventing, hindering or checking of a psychological, physiological or psycho-physiological process by a process of an antagonistic kind."

Potter, S. *Language in the Modern World.* Baltimore: Penguin Books, 1960, $.95 (paper). A full description of present-day linguistics.

Prasad, G., "Sarvodaya—A Critical Study." *Ind. J. of Pol. Sci.*, XXI (Jan.-March '60), 38-61. The Sarvodaya movement began as a protest against modernity and remains anti-modern in fundamental outlook—passions for democracy, increased wants, urbanization are immoral. But it has "reminded the materialist world of the moral and spiritual well-being of the individual."

Rae, J. B., "The 'Know-How' Tradition: Technology in American History." *Technology and Culture*, I (Spring '60), 139-50. Much of the history of American technology has yet to be written; ultimately its findings must be set into the total picture of American life for a better understanding of how it has influenced and been influenced by the American environment.

Riallin, J.-L., "La prevention des naissances au Japon: politique, intentions, moyens et resultats." *Population*, XV (April-May '60), 333-52. Great statistical detail on all aspects of birth control programs and personal practices.

Rapaport, D. *The Structure of Psychoanalytic Theory.* N.Y.: Intl. Universities Press, 1960, $3.00. An attempt at systematization.

Recognition of Excellence. Glencoe: The Free Press, 1960, $3.75. Working papers of a Stern Family Fund project on the identification and nurturing of intellectual excellence, in education, including an inventory of current research by Adam Yarmolinsky and an analysis of the workings of major scholarly institutions giving awards to "mature excellence."

Rosenbaum, M., "Obstacles to Research in Psychotherapy." *Psychoanalysis and the Psychoanalytic R.*, XLVII (Spring '60), 97-105. Problems of the research setting—"lack of acquaintance with related work," the "resistance phenomenon" on the part of therapists and researchers, clarity of research objectives—that are too often ignored.

Rudolph, L. I., and S. H. Rudolph, "The Political Role of India's Caste Associations." *Pacific Affairs*, XXXIII (March '60), 5-22. Caste remains central to Indian society, "even while adapting itself to the values and methods of democratic politics. Indeed, it has become one of the chief means by which the Indian mass electorate has been attached to the process of democratic politics."

"The Russian Intelligentsia." *Daedalus*, Summer '60. D. Burg, M. Hayward, R. Pipes, B. Schwartz and others on the character and disposition of the elite class responsible for new thinking in Russia. Analyses of the Soviet intelligentsia are set against historical studies and articles on the intelligentsia of Communist China and Fascist Spain.

Sauvy, A., "Evolution récente des idées sur le surpeuplement." *Population*, XV (June-July '60), 467-84. The concept of overpopulation related to actual growth and conditions.

Schaff, A., "Why History is Constantly Rewritten." *Diogenes*, #30 (Summer '60), 62-74. Finds the answer in "the dynamic nature of cognitive process": "the development of reality reveals to us new aspects and features of the past reality, which we did not and could not see before."

Schlebecker, J. T., "The World Metropolis and the History of American Agriculture." *J. of Econ. Hist.*, XX (June '60), 187-208. The natural environment may not have been so crucial in American agricultural development as economic position in respect to urban areas.

has small concern for classes and their rivalries.

When challenged for disregarding class struggle, American sociologists assert that class consciousness in America is less strong than such sentiments as national origins. To charge American sociology with covering up the state of class conflict would be to claim possession of better information on American society than American sociologists have. Marxist sociologists make this charge, but in doing so they become ideological. It is more nearly accurate to suggest that American sociologists' interpretation of American society is not the only possible one.

Is American sociological method universally applicable? American sociologists might claim it to be with regard to its analytic, quantitative, and empirical aspects. However, French sociologists, as one example, are much stronger in the realm of social theory. Whereas there are objective social facts, there is also probably a legitimate pluralism of sociological methods, methods that are most instructive through their common elements.

The truly American social science is anthropology. It best fits the pattern of American society, and in this field American scholars have been simultaneously most empirical and most philosophical.

THE FALLACY OF FINAL SOLUTIONS

We cannot speak of individuals or societies finally "solving" the problems which constitute the very essence of their living. Such "solutions" would presuppose an omniscience with which only gods, and not men, are endowed; it would be necessary to assume that the problems involved were, like mathematical equations or logical constructs, capable of final solution: that solutions to social problems are inherent in a given set of premises. But in the problem of life and of living societies there are no given or clear-cut premises—other than the wide limits set by heredity and environment—and these are themselves subject to the influence of change.

It is this false analogy with mechanics and mathematics that accounts for the facile belief that the problem involved in living and working together in a community is similar to the problem of finding, by abstract thought or logical deduction, the "unknown" factor in an equation. In the realm of organic life there is, and can be, no final solution—other than death itself. What appears to be a "solution" at one moment of time is but the stage-setting for the problems of the next succeeding instant or, if you prefer, of the next turn of the cycle in the life process itself. Those who arrogantly write solutions upon their political banners . . . offend the very nature of all social evolution which rests on the slow unfolding of institutions, laws, and habit-patterns of thought and action.

S. Herbert Frankel

"Some Reflections on Civilization in Africa"
Hoernle Memorial Lecture before the South African Institute of Race Relations, 1952

Paris Conference Plans UNESCO for 1961-62

UNESCO Social Sciences, 1946-1960. When UNESCO was born, the social sciences did not exist in many countries; elsewhere they were given widely varying values. Scope, method, and aims differed radically. The UNESCO social sciences programs have sought to stimulate development and organization of the human sciences and also to give scientific advice on various social problems. They have encouraged teaching and training in the social sciences and promoted international exchanges. UNESCO has aided the founding of international organizations in sociology, political science, economics, and comparative law. It formed the International Social Science Council. It established reviews, centers for documentation, research centers, and university chairs, and convened many seminars and conferences. It has striven to encourage research on social consequences of technical progress, land reform, population pressures, migration of people, racism, and women's rights. Beginning in 1954 a program on international understanding was attempted, but was hampered by Soviet dialectics beyond the ambit of social science.

The Conference and the 1961-62 Two-Year Program. Some 18 new nations may join the 82 nations now part of UNESCO at the UNESCO General Conference in Paris, November 14 to December 13, 1960. The Conference will be presented a social science program, and for that matter a general program, little changed from the previous two years, with the exception of a new program for Africa. About $3 million will be sought for the social sciences, of a total budget of $30 million for the biennium. A staff of 61 persons is provided for. Major programs outside but related to the social sciences are in education, mass communications, libraries, and cultural appreciation between East and West. Moreover, UNESCO will probably spend another $18 million of UN funds upon technical assistance, education, and economic development in 1961-62.

The aim of the American delegation is to promote the serious and orderly progress of technical, scientific, and cultural programs. The Communist bloc at the Conference is likely to take its cues on how to behave from the posture of Mr. Khruschev and his allies at the UN meetings a month earlier. Some irrelevant oratory can therefore be expected, abusing such concepts as disarmament, peace, and colonialism. Other anti-American elements will be at work, of course, for anti-Americanism is not uniquely a Communist prejudice. The atmosphere will be further complicated by the normal rugged individualism of the intelligentsia, by the numerous new states, and by the nature of the questions to be decided. Hence at UNESCO as well as the UN and elsewhere these days, the Americans have the vastly difficult task of lending energy, morale, and motivation while remaining sympathetic and egalitarian.

The U.S. Delegation. The U.S. Delegation to the Conference includes eight citizens and thirteen officials. Robert H. Thayer, Special Assistant to the Secretary of State, is Chairman, and William S. Dix, Princeton University Librarian and Chairman of the U.S. National Commission for UNESCO, is Vice Chairman. The Delegation also includes George N. Shuster, U.S. Member of the UNESCO Executive Board; Henry J. Kellerman, U.S. Permanent Representative to UNESCO; Frederick H. Burkhardt, President of the American Council of Learned Societies; Alfred de Grazia of New York University; Harry Goldberg of the AFL-CIO; Frank Maria, labor-management consultant; and President Joseph Platt of Harvey Mudd College. Other federal officials on the delegation are Bertha S. Adkins, Horace E. Henderson, Frank England, Magdalen Flexner, James F. Hughes, L. Arthur Minnich, Jr., John H. Moore, E. F. Morrow, James Sunsarian, Fredrika Teuteler, Andy Wilkison, and William B. Young.

IN THE NEWS

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PERSONALIA • Died: Anthropologist Alfred Kroeber at 84, Oct. 5 in Paris, of a heart attack. He taught at U. of Calif. from 1901 to 1946, wrote *Anthropology* (1923), *Configurations of Culture Growth* (1945). • J. E. Bebout will direct Rutgers U.'s new *Urban Research and Study Center.*

UNIVERSITIES • Recent study by Natl. Merit Scholarship Corp., "The Concentration of Scholarship Funds and Its Implications for Education," finds about half all such funds (*c.* $100 million in 1959) provided by only 50 institutions • A cooperative scholarship program to bring 100-200 African students to U.S. colleges annually was announced by 24 institutions, most of them private Eastern colleges, in mid-Sept.; 23 Nigerian students initiated program this fall. *African-Amer. Inst.* handles administrative arrangements. • At Columbia a new *Intl. Center* will house the Columbia School of Intl. Affairs, the new Intl. Fellows Program, and the Foreign Area Studies. • St. Louis U. is establishing a scientific computing center, with help of $100M from C. H. Yalem F.

FOUNDATIONS • Ford grants in summer and early fall, not previously noted: $280M to *Econ. Research Inst.*, Dublin, for research and training *re* Irish development; $225M to MIT's *School of Indsl. Mgmt.* to provide its graduates with internships to promote African indsl. development; $200M to *Eur. Productivity Agency* to improve Eur. training, research, and technical assistance in less developed countries; $200M to *Overseas Development Inst.*, London, to strengthen British relations with less developed countries; $175M to *Intl. Econ. Assoc.* to expand refresher course and conf. programs for economists in less developed countries; $127.7M for consultants on ed. in Argentina, Brazil, Chile, W. Indies Fed.; $80M to *Inst. of Applied Econ.*, Paris, to develop and expand research and training related to African development in Paris, and branch centers; $25M to *Indsl. Relations Counselors* for study on problems in exec. retirement. • Under its urban and regional program, Ford also gave $500M to RAND Corp., $400M to *Regional Plan Assoc. of N.Y.*, $550M to U. of Minn., $175M to U. of Penn., $150M to Wilkes Col., $125M to U. of Ill., for various research and planning activities. • In Sept. Ford announced $6.38 million in grants for overseas development, among them $740M to India's *Natl. Council of Applied Econ. Research,* $325M to Nigeria for consultants in pub. admin., public service training, econ. development. • Rockefeller grants in 1959 totalled $34.2 million, of which $4.05 million, (12%) went to social sciences. • Carnegie grants for ed. during the summer included $135M to *ETS* in further support for James Conant's studies on Amer. public ed. (to be published this month); $127M to Collegiate School to develop and test automated teaching materials for secondary schools; $75M to U. of Virginia for special course in training gifted children; $55 to *Amer. Council on Ed.* for conf. on ed. in E. Africa. • Richardson F. gave $10M to *AIESEC* for student-administered exchange program for econ. and business students. • Marshall F. (Texas) gave $30M to Cornell U.'s *School of Industry and Labor Relations* to train trade union members under its *Intl. Labor Training Program.* • Hill Family F. gave $50M to U. of Minn. for econ. and urban studies of upper Midwest, jointly with *Upper Midwest Research and Development Council.* • Campbell Soup Fund gave $100M to Columbia *Grad. School of Business.* • W. K. Kellogg F. gave $278M to Johns Hopkins U. to finance 10-yr. program of career training and research in Latin Amer. studies, to be developed by *School of Advanced Intl. Studies.* • Old Dominion F. gave $150M and Houghton F. gave $25M to *Inst. for Philosophical Research* (San Francisco). • Spring '60 grants not previously reported here: Freeman F., $30M to Wayne State U. Law School to assist students of intl. law; Babcock F., $280M to *Intl. Communications F.* for operating expenses, development of materials on Turkey, Iran, Pakistan, Afghanistan, Yugoslavia, for use in ed. institutions in U.S. and abroad; Babcock F., $86M to Wake Forest College School of Law; Sloan F., $100M to Case Tech. to expand research, training in indl. management program.